UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,900	02/24/2004	Eugene R. Cooper	029318-1003	1015

31049 7590 05/02/2008

Elan Drug Delivery, Inc. c/o Foley & Lardner
3000 K Street, N.W.
Suite 500
Washington, DC 20007-5109

EXAMINER	
TRAN, SUSAN T	

ART UNIT	PAPER NUMBER
1618	

MAIL DATE	DELIVERY MODE
05/02/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/784,900	COOPER ET AL.	
	Examiner	Art Unit	
	S. Tran	1618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 April 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-72* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-72* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *04/03/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/03/08 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-6, 9, 10, 12, 14-17, 26-29, 32-35, 38, 39, 41, 50, 52-55, 58, 59, 61 and 63-67 are rejected under 35 U.S.C. 102(b) as being anticipated by Turck et al. US 6,184,220.

Turck teaches an oral suspension comprising one or more active substances of the NSAID type, particularly the antirheumatic agent meloxicam (abstract; and column 4, lines 66 through column 5, lines 1-67). Meloxicam has particle size such that at least 90% of the particles are smaller than 10 μm (column 4, lines 35-46). Turck further teaches meloxicam is stabilized by the addition of silicon dioxide and hydrophilic

polymer (abstract; and column 4, lines 13-45). The suspension further comprises other additives such as flavoring agent, sweetening agent, and excipients (column 6, lines 62 through column 7, lines 1-23). Turck also teaches a process for preparing the stabilized drug particle comprising grinding the drug, and then mixing the drug with silicon dioxide using homogenizing process (column 7, lines 35-59; example 1; and column 10, lines 15-54). Turck further teaches the suspension has a T_{max} of 1.5-5 hours (column 10, lines 1-2).

It is noted that Turck does not explicitly teach the claimed properties such as claims 15 and 17. However, such limitations are inherent because Turck teaches the use of the same active agent having particle size that falls within the claimed range that result in the claim T_{max}, namely, meloxicam with at least 90% of the particles are smaller than 10 μm which has the T_{max} of 1.5 hours.

Claim Rejections - 35 USC § 103

Claims 1-17, 26-42 and 50-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Turck et al., in view of Liversidge et al. WO 93/25190.

Turck is relied upon for the reason stated above, Turck does not teach the claimed surface stabilizer.

Liversidge teaches a dispersible nanoparticle having an effective average particle size of less than about 400 nm, the nanoparticle comprising NSAID and surface modifier (abstract; and page 2, lines 21-25). NSAID is present in crystalline phase, and in an amount 0.1%-60% (page 3, lines 31-35; and page 7, lines 31-33). Liversidge

further teaches a pharmaceutical formulation for the treatment of a mammal, the formulation comprising the dispersible nanoparticle, and an acceptable carrier (page 2, lines 26-28). Liversidge also teaches a process for preparing the nanoparticle comprising the steps of dispersing an NSAID in a liquid dispersion medium; wet grinding the NSAID in the presence of grinding media, wherein the pH of said medium is within the range of 2-6; and adding surface modifier in an amount of 0.1-90% (page 7, lines 20 through column 8, lines 1-17; and pages 9-10). The claimed surface modifier is disclosed in pages 5-6. Two or more surface modifiers can be used in combination (ID). The pharmaceutical formulation can be processed into dosage form such as solid, liquid for administration by parenteral, oral, rectal, and the like (page 11, lines 29-36). Thus, it would have been obvious to one of ordinary skill in the art to modify the process for preparing the active particle of Turck to include other surface stabilizer in view of the teachings of Liversidge to obtain the claimed invention. This is because Liversidge teaches that surface modified NSAID nanoparticles demonstrate reduced gastric irritation and a more rapid onset of action following administration (pages 2-3), because Turck teaches the use of surface stabilizing agents for stabilization purpose and to prevent agglomeration of the particles (column 3, lines 53-65), because Turck teaches the desirability for preparing a dosage form suitable for long term administration of meloxicam with reduced gastrointestinal side effects, and because Turck teaches the desirability to achieve rapid onset of meloxicam to ensure fastest possible dissolution of the active substance in the GI tract (column 1, lines 40-67; and column 4, lines 30-35).

Claims 18-25, 43-49 and 68-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Turck et al., in view of Desai et al. WO 01/45706 A1 or Courteille et al. US 5,384,124.

Turck is relied upon for the reasons stated above. The cited references do not teach the second particle population.

Desai teaches a dual-release composition of low water soluble drug (COX-2 inhibitor) comprising first fraction of the drug in nano-particulate form having average diameter of about 200 to about 400 nm and a D90 particle size less then about 5 μm (page 18); and a second fraction of the drug in micro-particulate form having D10 particle size of between 25 to about 100 μm (page 20, 1st paragraph). The first fraction nano-particle drug can be present alone or in combination with one or more excipient, such as nano-particles of the drug have a surface modifying agent (PEG-400) adsorbed on the surface thereof (page 18, 3rd through page 19). The weight ratio of the first to the second fraction of the drug in the composition is about 1:10 to about 10:1 (page 22, 3rd paragraph). The composition can be in an oral dosage form including tablet, pills, hard or soft capsule, lozenges, cachets, dispensable powder, granule, suspension or elixir (pages 37-38).

Courteille teaches a solid unitary composition comprising combination of nano-particle having diameter of less than 1 μm and micro-particle having diameter of between 1 μm to 2 mm (see abstract, column 2, lines 32-46). The mixture of nano/micro-particle contains one or more active agents of the same or different type (column 1, lines 66-68, and column 2, lines 23-31). The active agent can be selected

from antibiotic, analgesic, tranquilizer, vitamins, and therapeutic agents for diseases of allergies, hormones, or gastrointestinal tract (column 5, lines 46-66). The mixture of nano/micro-particle is prepared by any known method (air-fluidized bed coating, turbine coating, simple extrusion, or micro-encapsulation) employing the use of a polymer or a macromolecular substance (surface stabilizer) selected from the group of cellulose derivatives, starch, polyamide, collagen, dextrin, gelatin, polyvinyl chloride or the like (column 2, lines 46-55, and column 3, lines 18-40). The mixture further comprises stabilizing agent, surfactant, and biding agent (column 4, lines 20 through column 5, lines 1-28). Courteille further teaches the solid dosage form comprises immediate release with a secondary controlled release of mixture of nano/micro-particle (column 6, lines 16-50). The solid dosage form is to be incorporated into pharmaceutical oral dosage form (column 6, lines 51-56).

Thus, it would have been obvious to one of ordinary skill in the art to modify the composition of Turck to include the second particle population in view of the teachings of Desai or Courteille, because Desai and Courteille teaches compositions suitable for analgesic drugs including COX inhibitor, and because Turck teaches the desirability of obtaining a composition suitable for the treatment of conditions using NSAID active agents.

Response to Arguments

Applicant's arguments filed 04/03/08 have been fully considered but they are not persuasive.

The terminal disclaimer filed on 04/03/08 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US 6,908,626 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Applicant's arguments filed 04/03/08, with respect to the 103(a) rejection of claims 1-72 have been fully considered and are persuasive. Therefore, the rejections have been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Turck et al.

The Declaration under 37 CFR 1.132 filed 04/03/08 is sufficient to overcome the rejection of claims 1-72 based upon the prior arts cited in the final rejection dated 09/20/07. However, a new ground of rejection is made in view of Turck for the reasons stated above.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Tran whose telephone number is (571) 272-0606. The examiner can normally be reached on M-F 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Hartley can be reached on (571) 272-0616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. Tran/
Primary Examiner, Art Unit 1618